

CLAIMS

1. A water-swellable linear polymer obtainable by reacting together
 - (a) a polyethylene oxide;
 - (b) a difunctional compound, and
 - (c) a difunctional isocyanate.
2. A polymer according to claim 1 wherein the polyethylene oxide has a number average molecular weight of 4000 to 35,000.
3. A polymer according to claim 1 wherein the polyethylene oxide has a number average molecular weight of 8000 to 12,000.
4. A polymer according to any preceding claim wherein the difunctional compound is a diamine or diol.
5. A polymer according to claim 4 wherein the diol is a C₅ to C₂₀ diol.
6. A polymer according to claim 5 wherein the diol is a 1,10-decanediol.
7. A polymer according to claim 5 wherein the diol is 1,6-hexanediol, 1,12-dodecanediol or 1,16-hexadecanediol.

8. A polymer according to any preceding claim wherein the ratio of components (a) to (b) to (c) in terms of equivalent weights is in the range 0.1-1.5 to 1 to 1.1-2.5.
9. A polymer according to claim 8 wherein the ratio is 0.2-0.9 to 1 to 1.2 - 1.9
10. A polymer according to claim 9 wherein the ratio is 0.5 - 0.9 to 1 to 1.5 - 1.9
11. A polymer according to any preceding claim which is swellable in water up to 500%.
12. A polymer according to any preceding claim which is swellable in water up to 1700%.
13. A polymer according to any preceding claim which is soluble in dichloromethane.
14. A method of making a polymer according to claim 1 which comprises reacting together components (a), (b) and (c).
15. A controlled release composition which comprises a polymer of any of claims 1 to 13 together with an active agent.

16. A composition according to claim 15 wherein the molecular weight of the active agent is in the range 200 to 20,000.

17. A composition according to claim 15 or 16 wherein the active agent is a prostaglandin.

18. A composition according to claim 15 or 16 wherein the active agent is terbutaline sulphate, clindamycin sulphate, oxytocin, misoprostol or progesterone.

19. A composition wherein the active agent is an H₂ receptor antagonist, antimuscarinic, prostaglandin analogue, proton pump inhibitor, aminosalicylate, corticosteroid, chelating agent, cardiac glycoside, phosphodiesterase inhibitor, thiazide, diuretic, carbonic anhydrase inhibitor, antihypertensive, anti-cancer, anti-depressant, calcium channel blocker, analgesic, opioid antagonist, antiplatelet, anticoagulant, fibrinolytic, statin, adrenoceptor agonist, beta blocker, antihistamine, respiratory stimulant, micolytic, expectorant, benzodiazepine, barbiturate, anxiolytic, antipsychotic, tricyclic antidepressant, 5HT₁ antagonist, opiate, 5HT, agonist, antiemetic, antiepileptic, dopaminergic, antibiotic, antifungal, anthelmintic, antiviral, antiprotozoal, antidiabetic, insulin, thyrotoxin, female sex hormone, male sex hormone, anti-oestrogen, hypothalamic, pituitary hormone, posterior pituitary hormone antagonist, antidiuretic hormone

hormone antagonist, bisphosphonate, dopamine receptor stimulant, androgen, non-steroidal anti-inflammatory, immuno suppressant local anaesthetic, sedative, antipsoriatic, silver salt, topical antibacterial, vaccine.

20. A composition according to any of claims 15 to 18 in the form of a suppository, pessary, buccal insert or film.